

CLAIMS

1. (Presently amended.) An anastomosis member to be arranged at an anastomosed site of first and second blood vessels to carry out the anastomosis of said first and said second blood vessels, said anastomosis member having a generally cylindrical body comprising at least one plate member to be brought into contact with both of said first and said second blood vessels, said plate member having integral therewith a plurality of protuberances formed on at least one of opposite surfaces thereof to be engaged with at least one of said first and said second blood vessels so as to prevent the dislocation of said first and said second blood vessels at said anastomosed site, said plurality of protuberances being formed from and extending from said plate member, having been formed by deformation of said plate member and thereby forming depressions on the opposite side of the plate member, and said protuberances and depressions having been formed without leaving an aperture in said plate member.

2. (Original.) An anastomosis member as claimed in claim 1, said anastomosis member having a plurality of said generally cylindrical bodies and at least one connecting member connecting said generally cylindrical bodies to one another.

3. (Original.) An anastomosis member as claimed in claim 1, said anastomosis member having an elasticity so as to be compressed and expanded in diameter.

4. (Original.) An anastomosis member as claimed in claim 1, wherein said anastomosis member has a stress-strain characteristic including a plurality of different kinds of regions at least corresponding to a low-rigidity part deformable along the curvatures of said first and said second blood vessels to be tightly fitted thereto, and a spring region which is compressible and self-expandable in diameter.

5. (Original.) An anastomosis member as claimed in claim 1, wherein said generally cylindrical body comprises a plurality of said plate members connected to one another in a zigzag pattern.

6. (Original.) An anastomosis member as claimed in claim 1, wherein said generally cylindrical body comprises at least one plate member wound into a helical shape

7. (Original.) An anastomosis member as claimed in claim 1, wherein said generally cylindrical body comprises a plurality of said plate members connected to one another in a lattice pattern.

8. (Original.) An anastomosis member as claimed in claim 1, wherein said generally cylindrical body comprises a plurality of said plate members connected to one another in a rhombic pattern.

9. (Original.) An anastomosis member as claimed in claim 1, wherein said generally cylindrical body comprises a plurality of said plate members arranged in parallel to one another and a plurality of connecting members connecting said plate members to one another.

10. (Original.) An anastomosis member as claimed in claim 9, wherein each of said connecting members is an elastic wire member.

11. (Original.) An anastomosis member as claimed in claim 1, wherein said plate member is made of a stainless steel plate or a shape memory alloy selected from a TiNi alloy and a beta Ti alloy.

12. (Withdrawn.) An anastomosis device for use in the anastomosis of first and second blood vessels, said anastomosis device comprising a combination of an anastomosis member arranged on an outer surface of at least one of said first and said second blood vessels and a stent to be arranged in a

lumen of said at least one of the first and the second blood vessels, said anastomosis member having a generally cylindrical body comprising at least one plate member to be brought into contact with both of said first and said second blood vessels, said plate member having a plurality of protrusions formed on at least one of opposite surfaces thereof to be engaged with at least one of said first and said second blood vessels.

13. (Withdrawn.) An anastomosis device as claimed in claim 12, wherein said stent is made of a stainless steel plate or a shape memory alloy selected from a TiNi alloy and a beta Ti alloy.

14. (Withdrawn.) An anastomosis device as claimed in claim 12, further comprising an additional blood vessel.

15. (Presently amended.) An anastomosis method for the anastomosis of first and second blood vessels by the use of an anastomosis member to be arranged at an anastomosed site of said first and said second blood vessels, said anastomosis member having a generally cylindrical body comprising a plate member having integral therewith a plurality of protuberances formed on at least one of opposite surfaces thereof, said protuberances being formed from said plate member by deformation thereof and thereby forming depressions on the opposite side of said plate member, and [[and]] said protuberances extending therefrom from the plate member and formed without leaving an aperture in said plate member, said method comprising the steps of:

inserting said anastomosis member into lumens of said first and said second blood vessels;

bringing said plate member into contact with at least one of said first and said second blood vessels; and

engaging said first and said second blood vessels with said protuberances so as to prevent the dislocation of said first and said second blood vessels at said anastomosed site.

16. (Original.) An anastomosis method as claimed in claim 15, further comprising the steps of inserting an end portion of one of said first and said second blood vessels into the lumen of the other blood vessel so that the end portions of said first and said second blood vessels overlap each other with said protrusions engaged with at least one of said first and said second blood vessels.

17. (Withdrawn.) An anastomosis method for the anastomosis of first and second blood vessels by the use of an anastomosis device to be arranged at an anastomosed site of said first and said second blood vessels, said anastomosis device comprising a combination of an anastomosis member and a stent, said anastomosis member comprising a plate member with a plurality of protrusions formed on at least one of opposite surfaces thereof, said method comprising the steps of:

inserting said stent into an end portion of a lumen of one of said first and said second blood vessels;

inserting the end portion of said one of the first and the second blood vessels into an end portion of a lumen of the other of said first and said second blood vessels;

inserting said anastomosis member so that said anastomosis member is interposed between said first and said second blood vessels at an anastomosed site where said first and said second blood vessels overlap each other; bringing said protrusions into contact with said first and said second blood vessels;

press-fitting by said stent said first and said second blood vessels at said anastomosed site;

engaging said first and said second blood vessels with said protrusions so as to prevent the dislocation of said first and said second blood vessels at said anastomosed site.

18. (Withdrawn.) An anastomosis method as claimed in claim 17, wherein each of said plate members is sutured by a fastening member to one of

said first and said second blood vessels in at least one position in said anastomosed site, said protrusions being formed only on one surface of said plate member which faces the other of said first and said second blood vessels at said anastomosed site.

19. (Withdrawn.) An anastomosis method for the anastomosis of first and second blood vessels by the use of an anastomosis device to be arranged at an anastomosed site of said first and said second blood vessels, said anastomosis device comprising a combination of an anastomosis member and a stent, said anastomosis member comprising a plate member with a plurality of protrusions formed on at least one of opposite surfaces thereof, said method comprising the steps of:

inserting said stent to extend over lumens of said first and said second blood vessels;

abutting said first and said second blood vessels to each other;
arranging said anastomosis member around outer surfaces of said first and said second blood vessels;

bringing said protrusions into contact with an adventitia of each of said first and said second blood vessels; and

engaging said first and said second blood vessels with said protrusions so as to prevent the dislocation of said first and said second blood vessels at said anastomosed site.

20. (Withdrawn.) An anastomosis method as claimed in claim 19, further comprising the steps of placing an additional blood vessel on the outside of said anastomosis member arranged around the outer surfaces of said first and said second blood vessels; and engaging said anastomosis member and said additional blood vessel with said protrusions.

21. (Withdrawn.) An anastomosis method as claimed in claim 20, wherein said additional blood vessel is fastened by a fastening member in at least one position.

22. (Withdrawn.) An anastomosis method as claimed in claim 21, wherein said fastening member is a filament or a strap.